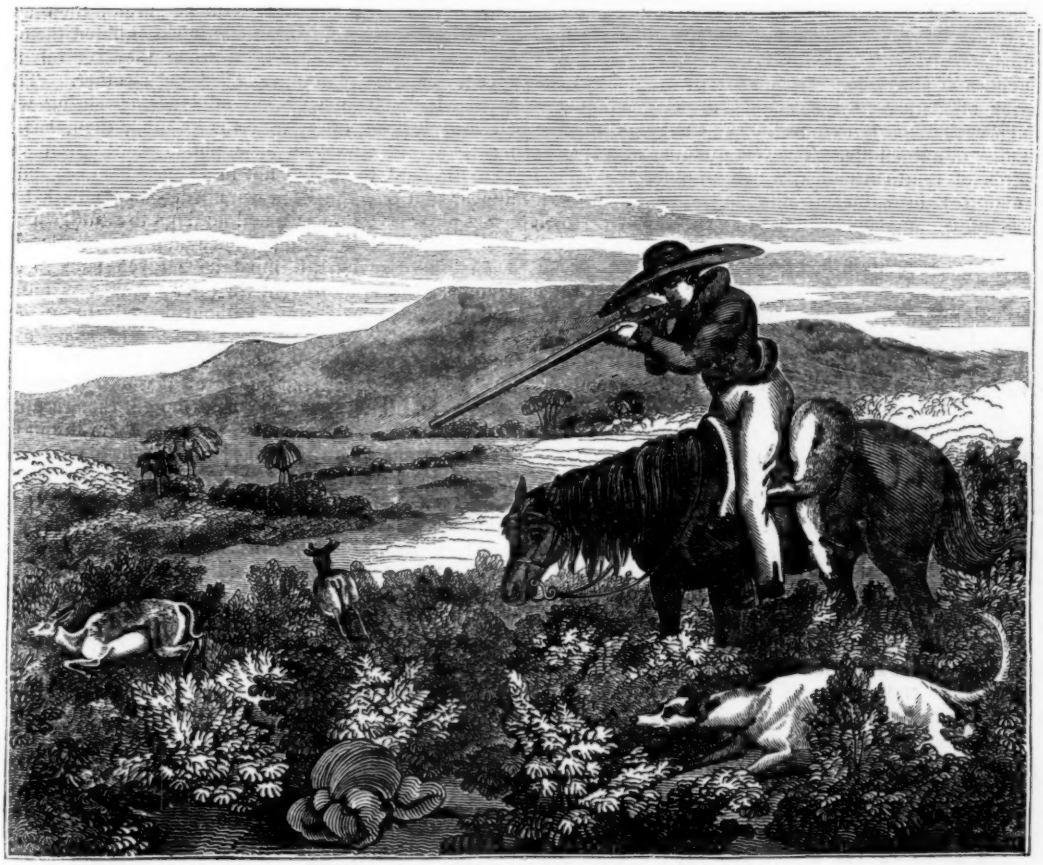
THE PENNY MAGAZINE

OF THE

Society for the Diffusion of Useful Knowledge.

265.] PUBLISHED EVERY SATURDAY. [May 21, 1836.

THE SPRINGER ANTELOPE.



[Hunting the Springbok at the Cape of Good Hope.]

The springer antelope, or springbok (buck) of the Cape of Good Hope, is a beautiful species of the genus or family of the antelope. Though the number of species of antelopes is large, and almost all of them distinctly marked from each other, it is only recently that they have been classed as a genus. M. Pallas was the first who pointed out the difference between the antelope and the goat clearly and distinctly, and during his researches he identified and described twenty-two species, which number has been since increased to sixty-six by the labours of more recent zoologists*.

The antelope represented in the engraving is one of the most beautiful, if not indeed the most beautiful, of the various species of antelopes which inhabit Southern Africa. It has received from the Dutch colonists the name of springbok, from the bounding leaps which it takes, and also pronkbok, showy or beautiful buck, from the colours which it discloses in leaping. This latter effect is caused by two folds of the skin, which, ascending from the root of the tail, and terminating upon the croup, dilate when the animal is bounding, and expose a large triangular space, otherwise concealed, of pure white-coloured hair, edged by two dark streaks. The head of the animal is rather short, with somewhat of the expression of a lamb: the neck is slender, the body comparatively bulky, and the legs slender and elegantly turned. It is larger than the gazelle, but of the same make and colour.

Major Hamilton Smith's description of the springbok is vivid and interesting. "It resides," he tells us*, "on the plains of South Africa, to an unknown distance in the interior, in flocks, assembling in vast herds, and migrating from north to south, and back with the monsoons. These migrations, which are said to take place in their most numerous form only at the intervals of several years, appear to come from the north-east, and in masses of many thousands, devouring, like locusts, every green herb. The lion has been seen to migrate, and walk in the midst of the compressed phalanx, with only as much room between him and his victims as the fears of those immediately around could procure space by pressing outwards. The foremost of these vast columns are fat, and the rear exceedingly lean, while the direction continues one way; but, with the change of the monsoon, when they return towards the north, the rear become the leaders, fattening in their turn, and leaving the others to starve, and to be devoured by the numerous enemies who follow their march. At all times, when impelled by fear, either of the hunter, or the beast of prey darting among the flock, but principally when the herds are

* See article 'Antelope.' in the 'Penny Cyclopædia.'

* Cuvier's 'Animal Kingdom,' by Griffiths and Hamilton. vol. iv.

assembled in countless multitudes, so that an alarm cannot spread rapidly, and open the means of flight, they are pressed against each other, and their anxiety to escape impels them to bound up in the air, showing at the same time the white spot on the croup dilated by the effort, and closing again in their descent, and producing that beautiful effect from which they have obtained the name of springer and showy bock."

In the first volume of the 'Menageries,' in the 'Library of Entertaining Knowledge,' there are a number of interesting particulars, some of which were communicated by the late Mr. Pringle, respecting the migrations of the springbok. The author of that volume remarks, "The migrations of innumerable companies of springboks from unknown regions in the interior of Africa to the abodes of civilization are amongst the most extraordinary examples of the fecundity of animal life. The vast quantity of a species of birds of South America, which produce the *guano* (a manure) in sufficient abundance to be a great article of commerce—the flocks of pigeons of North America—the locusts of Africa—are not more striking than the herds of springboks."

Captain Stockenstrom, a native of the Cape, in a letter addressed to Mr. Pringle, which was afterwards appended as a note to Mr. Thompson's 'Travels,' and is also given in the volume of the 'Menageries' alluded to, says, "It is scarcely possible for a person passing over some of the extensive tracts of the interior and admiring that elegant antelope, the springbok, thinly scattered over the plains, and bounding in playful innocence, to figure to himself that these ornaments of the desert can often become as destructive as the locusts themselves. The incredible numbers which sometimes pour in from the north, during protracted droughts, distress the farmer inconceivably. Any attempt at numerical computation would be vain; and by trying to come near the truth, the writer would subject himself, in the eyes of those who have no knowledge of the country, to a suspicion that he was availing himself of a traveller's assumed privilege. Yet it is well known in the interior that, on the approach of the *Trek-bokken*, as these migratory swarms are called, the grazier makes up his mind to look for pasture for his flocks elsewhere, and considers himself entirely dispossessed of his lands until heavy rains fall." Captain Stockenstrom accounts, in the following apparently satisfactory manner, for the cause of the migrations of the springbok. The immense desert tracts between Orange River and the colony of the Cape, westward of the Zeekoe River, though destitute of permanent springs, and therefore uninhabitable by human beings for any length of time, are, notwithstanding, interspersed with stagnant pools, and *vleys*, or natural reservoirs of brackish water, which, however bad, satisfies the game. In these endless plains the springboks multiply, undisturbed by the hunter (except when, occasionally, the Bosjesman destroys a few with his poisoned arrows), until the country literally swarms with them; when, perhaps, one year out of four or five, a lasting drought leaves the pools exhausted, and parches up the soil naturally inclined to sterility. Thus want, principally of water, drives those myriads of animals either to the Orange River or to the Colony, when they intrude in the manner described. But when the thunder-clouds burst on the parched-up country, the swarms again retreat to their more sterile but peaceful and secluded plains.

Mr. Pringle once passed through a migratory swarm scattered over the grassy plains near the Little Fish River. He could not profess to estimate their numbers; —he says they *whitened*, or rather *speckled* the country as far as the eye could reach. A gentleman riding with him, better acquainted than Mr. Pringle with such scenes, affirmed that, within view, there could not be less than 25,000 or 30,000.

Mr. Pringle describes the springbok as easily tamed when caught young. It is occasionally reared as a plaything for the children at the farms of the colonists*.

The following extract from the work of the Rev. C. J. Latrobe, who paid a missionary visit to South Africa in 1816, is introduced for the sake of the right-hearted feeling which marks it:—

"Here we were amused by the sight of some hundreds of springboks, one of the most elegant antelopes of this country. They stood in parties of twenty or thirty together, and our sportsmen were all alive, endeavouring to approach near enough to make sure of their aim. But all attempts were vain: the bucks suffered them to approach to within gun-shot, when they set off full speed, leaping sometimes over each other. They bounded along, in a species of dance, springing with all four feet at once from the ground, then, swiftly facing about, surveyed their pursuers. Sixteen shot were fired at them, but not in a single instance did it appear that one had been wounded. This afforded me great pleasure; for as we had no dogs to run down and secure any one that might have had a leg broken, or been otherwise hurt, it must have given pain to any feeling mind to know that the poor animal was lamed, and grievously suffering, without benefit to us, and would most likely be made the prey of some cruel ravenous beast. Could we have obtained one of them for our subsistence, the killing of it would have been excusable. The shot fired contributed, though not to our gain, yet to our pleasure, for it set them in motion, and the swiftness and elegance of their movements were well worth observing."

A correspondent, formerly resident at the Cape, and who has presented us with the drawing from which the cut in p. 193 was made, furnishes us with the following additional particulars respecting the habits and the chase of this animal:—

"The springbok, like the hare, conceals itself in cover during the day, and resorts to the open plain in the evening and at night, for the purpose of feeding only. The Cape antelope, in fact, perfectly resembles the hare in all its characteristics. It lies continually in its form,—leaving it only to procure food, or to escape from its enemies.

"The bok is shot in great numbers by the Dutch boors. This sport is usually pursued on horseback, and in the heat of the day. The animal is then lying in its habitual lair, and, on being disturbed by the sportsman, springs from it with a succession of bounds, than which nothing can be more beautiful or graceful.

"The Dutch boor is generally an unerring shot; but in case the antelope should be only wounded, the buck-dog (a species of large mongrel) is always at the heels of his master's horse, and, at the report of his gun, darts forward and secures the animal. It is then placed behind the saddle, in the way shown in the drawing.

"The horse used in buck-shooting is the hardy and serviceable animal common to the country. Many of them are so well trained, that they stop the instant the bok gets up, but in most cases a slight check is necessary; the rein is then dropped on the neck, and the horse is motionless. The annexed sketch gives an accurate representation of the common Cape horse."

PURPLE AND SCARLET DYES OF THE ANCIENTS.

From the Notes to the 'Pictorial Bible.'

Goguet and Heeren have respectively brought together much interesting information with regard to the purples of antiquity. From their works (to which he may refer for more detailed accounts) the following particulars are chiefly drawn. The pre-eminence given at the present day to purple as a royal colour, is undoubtedly a result of the ancient preference which arose when the relative superiority of purple to other colours was greater than at present. We have seen this colour frequently mentioned in connexion

* 'Menageries,' vol. i.—Library of Entertaining Knowledge.

with the works of the tabernacle and the dress of the high-priest; and among the heathen we know that the colour was considered peculiarly appropriate to the service of the gods. The Babylonians and other nations used to array their gods in robes of purple. A persuasion was even entertained that in the purple dye there lay some peculiar virtue for appeasing the wrath of the gods. Purple was also the distinguishing mark of great dignities among several nations. It is said that when the beautiful purple of Tyre was first discovered, the sovereign to whom it was presented appropriated it as a royal distinction. Homer intimates that it was only worn by princes; and this limitation of its use was common among other nations. A very early notice of this occurs also in Scripture, where the kings of Midian, defeated by Gideon, are described as being clad in purple raiment. (Judges viii. 26.) It seems to us very likely that, as there were several purples held in various degrees of estimation, it was only some particular shade of purple that was reserved for a godlike or royal distinction. It is important to understand that the word "purple" in ancient writings does not denote one particular colour. Pliny mentions the difference between some of the purples. one was faint, approaching to our scarlet, and this was the least esteemed; another was a very deep red, approaching to violet; and a third was of a colour compared to that of coagulated bullock's blood. The most esteemed Tyrian purple seems to have been of this last colour. We say "the most esteemed," because it appears that even the Tyrian purple was not one particular colour, but a class of animal dyes, as distinguished from vegetable—varying in shade of purple from the most faint to the most intense. It is to be understood, however, that all the Tyrian purples were more esteemed than other colours, although they differed in degree of value. Of the vegetable purples we know nothing. Most of our information relates to the purples of the Phœnicians. Whether theirs was the "purple" of the text it is impossible to determine, but it is not unlikely, as their discovery of this colour, or class of colours, is of very remote antiquity; and, at all events, a short statement concerning the Tyrian purples will be generally applicable, as they were doubtless as much esteemed, whenever they became known, by the Hebrews as by other nations; and they may be understood as the "purples" in future portions of the sacred books, if not in the present. These dyes were obtained from several varieties of shell-fish, comprehended under two species: one (*Buccinum*) found in cliffs and rocks; and the other (*Purpura*, or *Pelagia*), which was the proper purple-fish, taken by fishing in the sea. These fish were found on the coasts of the Mediterranean and Atlantic, and locally differed in the tint and value of the dye which they furnished. The Atlantic shells afforded the darkest colour; those on the Italian and Sicilian coasts a positive violet or purple; and those of the Phœnician shore itself, and in general the southern coast of the Mediterranean yielded scarlet colour. The most celebrated in the Mediterranean were those from the coasts of Sicily and the Peloponnesus; and in the Atlantic, those from the shores of Britain. The dyeing matter must have been very expensive, as each fish only furnished a very minute quantity of juice, pressed from a white vein or vessel in the neck, and which could only be obtained while the animal was alive. The rest of the fish was useless. The juice of this fish is not now used in dyeing; the art of preparing it is lost, apparently in consequence of as good or better dyes having been discovered, which can be obtained with much less trouble and expense. The Phœnicians excelled all other people in the use of this colouring matter, whence arose the great fame which the purples and scarlets of Sidon and Tyre enjoyed in ancient times; so that they were much in request among great people, and formed the prevailing fashion among the higher ranks of society. The beauty and variety of colours, it would seem, was more the result of art than a natural property of the material. The desired hue was obtained by the application of differently-tinted juices, the hue being varied by the order of application. The mixing and preparation required for the intended result was a work demanding much care and skill; the process being of course varied according to the hue to be obtained. The Phœnicians are also understood to have possessed the art of throwing a peculiar lustre into their colours by making other tints play over it, producing what is called a "shot colour." This perhaps was the great secret of their art. The most esteemed purple stuffs were those which were "twice-dyed;" and as this seems to be noticed in the sacred text as a distinction of the stuffs there mentioned, we might take this as an intimation that the dyes were Phœnician; but on this point it is not necessary to insist. The Phœnician dyeing seems to have been at all times performed in the wool. It appears that the purple dye was applied to all sorts of stuffs, linen, cotton, and, in later times, silk; but its most usual application was to woollen, which, being manufactured from the fine wool of Arabia, possessed a value not entirely owing to the rich dye with which it was imbued. It was probably the merit of the fabric and the colour combined which obtained for the dyed stuffs of Tyre the high reputation which they would not have enjoyed on either account separately.

There has been some difference of opinion about scarlet. Some think that it is merely one of the Phœnician purples produced from the shell-fish; for it is certain that among the number was a bright colour, approaching either to a crimson or scarlet, and which seems to have been held in considerable esteem. Others, who do not contend on this point, hesitate to say whether crimson or scarlet is intended by the word in the text, and by its equivalents in other languages. Besides the dye produced by the murex, a crimson or scarlet colour was known in ancient times, obtained from an insect akin to the American cochineal, but producing a much inferior colour. This insect was called *kermes* (whence our words *carmine*, *crimson*) by the Arabs; and *coccus* by the Greeks and Romans. The female insect is about the size and shape of a pea, of a deep violet colour powdered with white, found chiefly on the leaves of a species of evergreen oak shrub (*ilex aculeata*), which is found in different parts of Western Asia and the south of Europe. Now that the colour afforded by this insect was the "scarlet" of Moses seems tolerably clear. The word rendered "scarlet" in the text and elsewhere in the books of Moses is either simply *tola* or *tola schani*. *Tola* means a worm, and, according to the analogy in the use of the word *kermes*, would literally be rendered "worm-dye;" the *schani* sometimes annexed is variously interpreted to mean either doubled dye (as the best scarlets seem to have been), or, according to another derivation, bright, deep-red dye. The terms together seem sufficiently to point out a species of coccus—doubtless the *coccus ilicis*. It is so understood by the Septuagint and Vulgate; the former rendering the original by κοκκος, and the latter by the same word in the Latin form of *coccus*. Professor Tychsen says that *tola* was the ancient Phœnician name for this dye used by the Hebrews, and even by the Syrians; and it is employed by the Syrian translator in Isaiah i. 18. After the captivity, the Jews more commonly used the Aramæan word *zehori*. The same learned orientalist thinks that the dye was discovered by the Phœnicians; and if so, and if they were the great managers of this as well as of the purple dyes, it would be useful to ascertain the difference in application, appearance, and quality between this and the purple scarlet. Was their famous scarlet *this*, or that produced by the shell-fish? We incline to think that it was the coccus, and that the most scarlet of the fish dyes was only used in modifying the purples. And we arrive at this conclusion, because while a "scarlet" is mentioned as the basis of the ancient purples, *this* scarlet is always noticed as something distinct from the purples. We imagine the distinction between the two to have been that the purple "scarlet" was crimson, whilst the kermes "scarlet" was the real scarlet, or perhaps more properly *vermilion* (the worm colour). Professor Tychsen, supposing the identity of the Scripture "scarlet" with the *kermes* established, properly concludes that the kermes dye was known before the time of Moses;—that the dye was known to the Egyptians in the time of Moses; for the Israelites must have carried it along with them from Egypt;—that the Arabs received the name "kermes," with the dye, from Armenia and Persia, where it was indigenous, and had been long known; and that that name banished the old name in the east, as the name "scarlet" has in the west. The kermes were perhaps not known in Arabia; at least they were not indigenous, as the Arabs appear to have had no name for them. *Kermes* signifies always *red dye;* and when pronounced short it becomes *deep red*. Beckmann thinks that in later times the Tyrian purples were superseded by the improvements of this dye; but we do not feel satisfied with his authorities for this conclusion. The *kermes* itself has now long been superseded by the American cochineal, which is far superior to any pigment employed in

ancient times for dyeing reds. Indeed we have perhaps little cause to regret the loss or disuse of any ancient dye, particularly in bright reds, which owe so much to discoveries of chemistry, that we have every reason to conclude them infinitely superior to any which ancient art could produce. Pliny complains that scarlet dyes could not be made sufficiently durable and adhesive; and the statements in ancient authors as to the brilliancy of scarlet may be admitted by recollecting that they had nothing better with which to compare it. The Roman sumptuary laws allowed anybody to wear scarlet; but purple was, as in other countries, limited to great dignitaries.

THE CORNISH FARMER AND THE LABOURING CLASSES.

[From a Correspondent.]

[Cornish Fisherwomen, from the neighbourhood of Mount's Bay.]

This Article relates more immediately to the state of things in the western part of Cornwall. It will in its main points, however, be found applicable to that county generally.

Although increased facilities of communication throughout the kingdom, and the operation of the press, have extinguished many provincial peculiarities and practices everywhere, and have produced much uniformity of character and modes of proceeding in general, yet soil, climate, and other matters springing from locality, will ever maintain (especially in parts remote from the metropolis) a certain individuality in the different districts.

The Cornish farms are in general of a moderate size; many of them very small. A hundred acres is considered a pretty large farm. A pretty considerable portion of the land is held by a respectable and valuable class of farmers on leases for three lives, a renewal being generally granted. This system is, however, on the decline, and the farms are taken for terms of seven or fourteen years. Tenures from year to year are very unusual. The soil is for the most part gravelly and favourable to pasture, potatoes, and turnips. Corn also, but more especially barley and oats, yields good crops. Rye-grass and red and white clover succeed admirably, the moisture of the climate co-operating with the nature of the ground in promoting their growth. Lucern, sainfoin, &c., do not succeed so well, nor are they wanted. The indigenous grasses soon overpower them. Potatoes are a staple: they are of excellent quality, and contribute in an eminent degree to the comfort of the labouring classes, as well as to the due cultivation of the soil. The absence of wood and the frequent appearance of rocks give the country a sterile look, though it is in reality generally fertile when under the plough. Mining operations also contribute to give a barren aspect to the country, although they enrich the inhabitants. Almost every farm has a certain portion of furze-ground attached to it. This ground affords a supply of fuel as well as some pasturage for young cattle and horses. In speaking of the size of a farm, it is usual to say "So much tillable," this furze-croft being reckoned over the bargain. The convertible husbandry, with a three-course crop, prevails. Naked fallowing is almost unknown, as well as old meadow. The mode of harvesting corn is peculiar. Corn of every kind is bound up in sheaves, and, as soon as bound, (*i. e.* the same day,) is made up in the field *into* what are called *arrish* (eddish) mows. These are of a conical figure, and contain from 200 to 300 sheaves each. Wheat is bound as soon as cut. Barley and oats remain on the stubble for some days, when they are bound up and made into mows. In about ten days or a fortnight, these arrish mows are carted into the rick-yard (called *mowhay*) and thrown into long ricks. The uncertainty of the climate, coupled with the grassy condition of the stubbles, has probably led to this practice, as the corn when placed in these mows is perfectly secure against rain, and, at the same time, the grass, &c., in the sheaves is drying up so as to make them fit for the long rick. The method is very neat and economical, and will probably be introduced into

other parts of the kingdom. Large barns for holding corn in the straw are also, by this means, dispensed with, as the thresher can bring in his day's work in sheaves from the long rick from day to day.

A mode of ploughing called *combing* prevails in breaking up ley. The *alternate* furrow is ploughed narrowly and turned on the unbroken sod, termed the *stool*. This answers very well for rotting the turf, the two surfaces being closely applied to each other. In about a fortnight or three weeks the whole is broken down by a drag. Sand and sea-weed are extensively used for manure, especially the former, which is in many cases carted twenty miles for that purpose. One or more railways, with steam-carriages, besides canals, have been established almost exclusively for the conveyance of sand, which is indeed the staple manure of the county.

The horned cattle are chiefly North Devons; but the small breed of the county, being found best adapted to the climate and pasture, are much kept for milch kine. Oxen and steers are brought down to the fairs and markets by dealers from the extensive unenclosed tracts in the central and upper part of Cornwall, where they are bred. The Welch punch horse is much used for heavy draught, and the original small grey Cornish breed is crossed with thorough-bred travelling stallions for lighter work. Farmers near the mines are in the habit of contracting for the performance of such horse-work as may be required thereon. Formerly the ores were conveyed away to the smelting-houses on the backs of mules, large droves of which might, not many years ago, have been met on the roads. These have now been almost superseded by waggons. Sheep-farming prevails extensively. The Leicester, or some cross therefrom, is universal. Hog-feeding is an important branch, owing to the great growth of potatoes, on which, with skim-milk and some barley-meal, the animals are fatted. The long, unimproved, greyhound breed is still very general, though a cross from the Essex and Leicester kinds is gradually coming in, and with eminent advantage. Bacon is not so much used as pickled pork. All the milk is *scalded*, i. e. simmered over a gentle fire for producing clotted cream. Brass pans were formerly used, for which tin is now generally substituted, from its greatly lower price. An old opinion prevails in Cornwall, that milk in brass pans throws up more cream than in those made of any other material. Recent chemical discoveries have shown that zinc vessels afford most cream, and this metal being a component part of brass, the popular notion may be well founded.

The system of dairy-letting is very general in the pasturage district. The farmer provides cows, fuel, cottage, and potato-ground at so much per cow. Pork for the market is chiefly fatted by these dairymen. None but an inferior kind of cheese is made, and that for domestic use. The consumption is very trifling. Owing to the peculiar mildness of the climate towards the western extremity of the county, potatoes are raised very early in the open ground, so early indeed that *two* crops of potatoes are often obtained from the same spot in the same year. The London market begins to be supplied with these as well as with the later kinds. Agricultural societies have become common, and a striking improvement in stock, implements, and cultivation has followed. Persons still living remember when there was hardly a cart on a farm; while now vehicles of every kind and size abound.

The habits of the farmers are in general simple. Men and boy servants live in the farm-house, and eat at the same table with the farmer's family. The usual fare consists of salted pork, salted fish (near the coast), dumplings, broth, milk porridge, and, above all, of potatoes, always boiled with the skins on. Turnips and some of the commoner garden vegetables are also in use. Twice or three times a week a favourite pie is made of sliced potatoes with bits of pork and some seasoning, having a crust four inches thick running round it, but open in the middle. Apples have of late years come much into use in the cookery of the labourers, and with great advantage. In addition to the valuable kinds with which the county is well supplied, many cargoes are brought from Jersey and France. Neither farmers nor labourers drink anything but water or tea with their meals, except in harvest time. The use of tea is indeed universal, and it is consumed alike by the hardy ploughman and his feeble grandmother. Cheese, home-made, is mostly reserved for harvest time. In this way even farmers of considerable and hereditary wealth continue to live habitually, dressing their families very well, however, and keeping a good best parlour, as well as spare bedroom for the visiter. On market-days, &c., *toddy* (warm spirit and water with sugar) is the favourite indulgence, though in the east of Cornwall malt liquor is more used. Beer-shops abound, whether for good or evil, throughout the county. On cutting the last of the wheat-crop (called the *neck*), a currant cake is given to every person employed.

Large open-hearthed chimneys, without grates, are general, and a settle is placed *in* the chimney as a snug warm situation. The nature of the fuel (originally much confined to furze) has no doubt given rise to this form, as well as to a peculiar mode of baking. A flat circular moveable iron, from fifteen inches to two feet in diameter, is first heated by kindling fuel on it. It is then swept clean, a little flour is sprinkled over, and the bread, pie, or the like placed on it. A hemispherical iron vessel, called a kettle, is then whelmed down over the dish, and is surrounded at the lower part with hot ashes, and a blazing fire kindled above, which gradually subsides into a mass of embers. The whole is in fact a moveable oven. Bread or pastry thus dressed is somewhat moist, owing to the imperfect escape of steam. Thin cakes of potatoes and wheaten flour, or of barley-meal only (the last afterwards buttered) baked in this way, are much used. Owing, however, to the furze-grounds having been brought extensively into cultivation, grates and ranges for burning coal are coming into use, and in the eastern part of the county the kettle system is almost unknown.

Farm-houses and cottages are substantially built of granite in Cyclopean masonry, or of layers of schist, or else of cob, according to the geological character of the district. Thatched roofs, once universal, are now much superseded by slate. The farmers are usually collected in villages, owing to the small size of the farms. These villages are studded with fuel ricks, the thatch of which is secured by straw ropes, and these again are kept down by stones tied at the end—objects very conspicuous in Cornwall, though anything but picturesque.

The labourer partly purchases his fuel, but more generally obtains turf from the farmer, on condition of returning the ashes thence produced, together with what other manure he may collect, to the farm. When the labourer has no constant employer, or is not a husbandman, he bargains in the following way with any farmer. For the manure, and a small payment perhaps, he obtains potato-ground dressed therewith—about half an acre in general. Sometimes, instead of manure being provided, the farmer is paid so much a rod (about 1*s*.), who then supplies the required quantity, and all the labour to the planting inclusive. A considerable breadth of potato-ground is cultivated by paring and burning, chiefly with the breast-plough, called here "spading." In this case the cultivator pays a rent per rod for the ground, and gets the paring done by contract. Whatever mode may be adopted,

the farmer wholly or partially gets in the crop, and carts home the potatoes when dug: hoeing, digging, &c., are performed by the cultivator. This practice has long prevailed, and is in fact an allotment system, the land being changed yearly. All but the richer classes, and the inhabitants of towns, grow their potatoes in this way. The poor are thus enabled to keep a pig "to pay the rent," and poultry also. Women are much employed in out-door labour. In addition to the getting in of hay and corn, potato-digging and planting affords them considerable employment. Milking also falls to their share; and, not very unfrequently, girls are seen plough-driving.

Labourers constantly employed on the same farm are supplied with corn at a fixed price the year round. They bake their own bread. Barley was in general use, till lately that the very low price of wheat has led to a partial adoption of that grain. This may be accounted for from the fact, that, till within the last sixty or seventy years, it was considered that wheat could only be grown on the best and oldest enclosures on a farm, whereas it is now sown on almost any land. In some districts, however, wheaten bread has ever been in general use by the labourer. Wages, till recently, have been a shilling a day and dinner, with the privileges here enumerated. In many cases, the farmer sets cottage and fuel against the harvest month. Threshing is not a separate branch, but is performed by all the workmen on a farm; and wet mornings are, of course, mostly appropriated for the purpose. A day's threshing (100 sheaves of wheat, 180 of barley, 120 of oats) is completed in the forenoon, or soon after; the remainder of the day the labourer has for himself, to cultivate his potato-ground, get his fuel, &c.

The hand-implements in common use for agriculture are the triangular shovel and a large mattock (called a "pigal"), both long-handled. Owing probably to the absence of short-hilted tools, the Cornish peasantry are more erect in their gait than those of the midland counties. Corpulent persons are seldom seen among them. Cottage gardens are not at all of frequent occurrence: on the contrary, the mud-pool and the dungheap too often occupy their place; and even habitations neat within (which they generally are) are frequently approached through mire and stench*. The same must be said of very many farm-houses, in which, however, hospitality does not the less prevail. Cottage rents are from 2*l.* 10*s.* to 3*l.* 10*s.* Homespun garments have almost disappeared here, as in other parts of the kingdom. The labourers' families are well clothed; and the smart as well as expensive dress of all classes on Sundays and holidays is striking. Trowsers are generally worn. The philibeg is now seen among fishermen only, and that but seldom. The miners work in a coarse woollen dress. This they keep and put on in a room in the mine called the "Change-house."

The system of paying wages, or allowance instead, out of the poor-rate, is almost unknown, though roundsmen are not so. Owing to the present prosperous condition of the mines, and the consequent demand for labour, wages are now high; and that anomalous state of things exists in which, while agricultural produce is low, and rents falling, the price of labour is perhaps higher than ever before known. Employment in the mines, too, is almost always preferred to working on the land. Thus the farmer is doubly harassed. Owing to the increase of population and capital, the waste lands, of which Cornwall has a vast and dreary portion, extending down the centre of the county, and in other parts, are being daily enclosed for improvement. This is chiefly effected through the building of cottages, to which a portion of the waste, held on three lives, at a very trifling rent, is attached. The cultivation is usually commenced by paring and burning for potatoes. On the estate of the Earl of Falmouth it is said that there are already from 1500 to 2000 such tenants. These improvements are made principally by persons of the labouring class; and the miners in particular are fond of investing their savings in this way. A very neat class of cottages has thus arisen. These men work six to eight hours (called "a corps") out of the twenty-four in the mine. The remainder of their time is free for any other purpose, during which they cultivate their potato-ground, prepare fuel, &c.; and, if beforehand enough with the world to take one of these leaseholds, get together building materials, fence or dig their allotment, &c. It is not unusual for a miner to rent a small portion of land when he has not such a building-lease.

The miners are not free from the improvident habits of their class: eating and drinking bouts, called "choruses," are too frequent, especially on Saturdays. A system of employing them to work parts of the mine "on tribute," *i. e.*, the workman receiving for his labour a certain portion of the ores which may happen to be found in the ground allotted to him, prevails. These "pitches" as they are called, are let by Dutch auction to the lowest bidder, and are taken each by a party of miners, termed "a pair of men." The tribute-work was formerly let from six months to six months, new bargains by auction being made, higher or lower, according to the produce of the period just completed; and during this time the families of the miners were supported by an advance from the employer of "cist (subsist) money." It is now let from month to month —a change greatly to the permanent advantage of the working-miner, since greater certainty is introduced, and the remuneration approaches much nearer to regular wages. Taking the chances of a piece of ground for the long period of six months was too much of a gambling employment for mere labourers, in which extreme suffering and sudden gains alternated, and produced the usual heedlessness and dissipation. Those parts of the mine which do not yield ore are generally done by job-work, called "tut," let by auction also, at so much per fathom, the usual measure in Cornish mines. "Cist-money" is advanced here, also, when required. Parties of men succeed each other in the mines during the twenty-four hours. Boys and girls, and weak as well as strong hands, find employment in "spalling" the ore, and other surface operations. The number of persons employed in a mine varies from twenty individuals to 2000. A medical man attends each mine by contract.

The extended line of coast along the Cornish promontory engages many of its inhabitants in the fishery. Deep fishing for cod, ling, &c., continues through the winter, more or less. In February the mackerel fishery commences, and is carried on in large lug-sail boats, frequently out of sight of land. This fishery is called *driving*. Fishing of one or other description, as hooking, lobster and crab-trapping, &c., occupies the summer. During this part of the year also, during the last twenty years, many boats from the south and west of the county have gone over to Ireland, where they engage in the herring-fishery, and sell their fish fresh. Most of them return in July, for the pilchard-fishery. Some continue a month longer on the Irish coast. The earliest pilchards are taken in nets set from single boats, termed *driving*, similar to the manner in which mackerel are caught. The seine-fishery for pilchards, which is the principal, follows. The seine-net is shot away round a shoal of fish in sight on the surface; men called *hewers*, posted on high cliffs, giving notice of the approach and direction of

* The many recently-established Cottage-garden Societies, with the general spirit of improvement, will remedy this

the shoals. This fishery continues from eight to twelve weeks. Formerly it lasted till Christmas; and these fish seem to be again returning to their old habits of frequenting the coast in the winter. In the autumn a large fat mackerel is taken, called the winter mackerel: this is usually pickled for winter provision. Pilchards are also pickled for the same purpose, and afford a valuable resource to the labourer, who frequently purchases them from the boat-side for a shilling a hundred, or less. The damaged pilchards (called *mun*), as well as the refuse salt, form a valuable and powerful manure. Boats are often held in shares. Nets, called *craft*, are held separately from the boat. Thus an individual may contribute to the fishing a boat, a share of a boat, a net, or his personal labour only. He may also contribute each of these. The division of fish taken is of course in proportion. The seine-fishing, however, is conducted by companies or individuals (usually the former), who provide the whole of the requisites, except only that men sometimes adventure their labour, or a part of it. The fishermen contrive in leisure hours to cultivate their potatoes in the way already described. Women carry the fish in *cauwals* of willow on their backs to places near the coast. (See the plate.) Their shepherdess hats of black beaver, and often handsome countenances, give them a picturesque appearance. Farther inland the fish is conveyed on light carts by persons who make this their business.

Parish-feasts are still celebrated in Cornwall with much jollity among the classes of society here described: they usually continue three days. Entertainments at funerals are also common. Relations and acquaintance of the deceased go from the church to his or her late residence, where provision is made according to the means of the family. Refreshment also precedes the funeral. It is still usual to call elderly persons "uncle" and "aunt," and the "good night" is commonly given in passing. The use of nicknames is very prevalent. These are not only personal but hereditary, and many families are distinguished by them. Many French words, as well as terms from the extinct Cornish language, are in common use; the latter especially in terms of art among the miners. A sort of recitative or sing-song pronunciation is characteristic, and amuses the stranger much. Agriculturists, miners, and fishermen pronounce very differently from each other in some districts; and within ten miles all these varieties of sound may be sometimes met with. The people generally are much inclined to use the points of the compass, and the eastward, the westward, the south country, &c., are frequently heard. The farmers are very hospitable, and a good deal of kindness and simplicity is still found among them and the labouring classes. The miners, fishermen, and agriculturists amalgamate a good deal together, and are not so much separated as classes of different professions often are. Many individuals are employed in more than one of the three pursuits. The inhabitants are healthy and long-lived, except, perhaps, the miners; they are acute, and courteous to strangers, and mild in their deportment. After the old stories of Cornish wreckers, and of other violences, so generally propagated, this may sound strange. It is not, however, the less true. Many of the old wrecking and similar narratives were no doubt too well founded. The period of these has passed away; and, as might be expected, the general improvement in most points during the last thirty years is striking. The old boisterous amusements of the people, as well as many peculiarities, have almost disappeared; and even wrestling (the Cornish "hug") is greatly on the decline. A great spirit of independence prevails withal. This is fostered by the extensive division of property, the commercial pursuits of the county, and the frugal habits of the people. In most of the towns mechanics' institutes are established.

To the habits and practices described in this paper Cornwall probably owes in a great degree her comparative exemption from that extensive and long-continued distress in which so large a portion of the kingdom was involved after the general peace, as well as from the overwhelming burden of poor-rates which has crippled the energies of many other counties. It is but fair to add, that Wesleyan Methodism, which may be called the Cornish religion, has had a share in producing this favourable state of things.

NATURAL ANALOGIES.

Under the general head of Natural Analogies, it is intended to treat of some of the different methods by which the same object is accomplished throughout the several departments of the physical world.

In organized nature, the weakest moment of each plant and animal is that at which it is also the most minute, and therefore the most capable of being protected. Thus, the delicate parts which compose the flower are easily shrouded by a mass of leaves, nor are they exposed to the elements till they are able to endure their contact.

The ripening principle does not cover the anthers of plants till these anthers, and the stigma destined to receive their influence, have acquired sufficient strength and solidity to fulfil their respective laws; and the petals only open when the parts beneath them no longer need their protection. The work of vegetation proceeds, the seed lies secure within the seed-vessel, and is not dismissed from the plant till it is covered by a husk or by some other tenacious integument. Once placed in a situation fit for growth, the seed yields to the operation of its hidden forces, and the shoot springs forth.

The same care being still needed, the destined stem of the plant does not emerge from the earth till sufficiently strengthened and supported by a root to sustain the casualties of the new world to which it is introduced. If the fragile plant were now to put forth leaves of the size and in the profusion which belong to a more advanced stage what would happen? The slightest breath would bend it to the earth, and the feeble grasp of its delicate root would soon become completely relaxed. But no such inconsistency takes place: the leaves of the infant plant are few and minute, the weight to be sustained does not surpass the power of the root below, and the same exquisite balance is preserved throughout its growth. Its dimensions increase not, except in proportion to strength and solidity. It need scarcely be remarked that these last observations refer principally to trees.

If we look to the animal kingdom, here also the moment of greatest weakness is that also of the utmost minuteness. Most probably all animals have life and motion before their texture is sufficiently confirmed to receive without injury even the gentlest influence of the elements; but the immutable law of nature befriends them, and a shell or a membrane in the oviparous, and the body of the perfect individual in the viviparous species, suffices at this time for the protection of their minute offspring. The period of gestation or incubation at length expires, or the secret force of nature in earth or water has acted for a sufficient time upon the eggs abandoned to its influence: in all these cases the young animal is now liberated, but it is still to experience the effect of the salutary decree which has coupled the utmost minuteness with the greatest imbecility; the wings of the parent bird suffice to cherish the brood, and in general the warmth emanating from the body of the perfect individual sufficiently pervades

the nest, or excavation, in which its young is cradled. Nor is this all. The lightness of the infant animal enables the parent to convey it at pleasure from place to place, and thus to carry it beyond the pursuit of enemies, or, where this is not the case, the minuteness of the young enables the older individual to guard it with the greater ease from the attack of a foe. Besides this, it is certain that many animals in the first stage of their life must frequently owe their preservation to the smallness of their bodies, which escapes the search of natural enemies, against which they would, if discovered, be unable to contend. Were the spawn of fish for instance, or the larvæ of insects, exposed in a bricked tank or on a bare rock to the attack of some of their finny or feathered destroyers, what individual of those doomed victims would escape? The organs not being developed or sufficiently strengthened for complete use, nature has provided innumerable hiding-places in which the weakness of her children may elude the force they cannot resist. The shadow of a rock or of a stone, of a tree or even of a blade of grass, affords perhaps every moment refuge to some defenceless animal, whilst the minuteness of the individual enables it, as its weakness inclines it, to find concealment.

It may be here said that the time of extreme age has been taken no account of, a time which nevertheless may appear to some to be one of as great weakness as the period of extreme youth; whence it may be objected that there is a moment when our principle does not hold, because in the aged individual the utmost minuteness is not joined to the greatest weakness. The answer to this objection is, that together with the vigour of life arrives and passes the time allotted by nature for the fulfilment of the great laws which govern the destiny of each individual, such, for instance, as the continuation of the species, and the like. It was therefore highly important that every possible provision should be made for conducting each individual to this mature period of its existence, because unless it reached this time it could not act its destined part. Hitherto therefore Nature is, as it were, a debtor to each of her children; she is pledged to put each in a condition for discharging the service she demands; but this grand object once attained, another law no less imperative begins to be felt. According to the constitution of things dissolution is no less necessary than production and preservation; for the earth would soon cease to afford habitation and sustenance to the animal and vegetable tribes, if life and death were not the prelude to each other. Decay then is necessary, and organized forms having fulfilled one part of their destination, are abandoned to that destructive principle in order to accomplish the other.

Another decree which provides for universal conservation is the principle, that the production of everything shall be in exact proportion to its consumption. If we consider the unorganized world, we shall be struck at every turn with some development of this principle. What, for instance, is more constantly drained of its resources than vegetable earth? Innumerable roots, at a greater or less depth, are hourly drinking its moisture and imbibing its thousand other unknown powers, and, for anything we know, unnumbered animals may be supported by the same aliment. The sun exhausts it from above, for it must contribute to the clouds; and in many regions subterranean fire doubtless drains a part of its moisture from beneath. If a being unacquainted with our planet were to be told of these innumerable ways in which the ingredient vegetable earth was every moment consumed, would he not fear that it would soon be exhausted? But the grand law now under consideration here steps in, and we are astonished at the exquisite provision which appoints the vegetable kingdom to contribute unceasingly by its decay to the renovation of the sources from which its life is drawn.

The next material which here naturally presents itself is water, which enters into the composition of, and is constantly demanded by, every organized form. This great element of support is not less required in the hot than in the high regions of the earth, although they would appear to one who simply considers the best properties of water the least capable of retaining it. For from the latter of these regions this fluid has a natural tendency to descend, whilst from the former its volatility causes it to be rapidly exhaled; and moreover, where these regions are sandy (a thing which frequently happens), the weight of water, no less than its tendency to exhalation, renders it, in these districts, as fleeting as it is precious. Such are the reflections which would infallibly suggest themselves to him who should reason on this subject, provided he was simply acquainted with the prominent characteristics of water, and ignorant of those laws which produce results the reverse of what he might naturally expect.

Let us then consider some of these decrees, that we may see how, with regard to the important fluid in question, our principle holds, namely, that the production of everything is in exact proportion to its consumption. Now, with regard to animals, (by whom so large a portion of water is constantly demanded,) there are many ways in which they return the water they absorb. Much internal moisture is constantly converted into steam, or secreted to the surface of the skin; in both cases it is absorbed by the air. The production of water is chiefly occasioned by the tendency which it has to rise into the atmosphere in the form of vapour. Many of the rivers which intersect our globe would flow in vain were it not for evaporation. A few spots might enjoy fertility were it not for the clouds which waft the important element to every region. The least moisture exposed to the atmosphere is every moment acted upon by the law that supplies these universal purveyors of water; nor do trees contribute less unceasingly to their demands than lakes, rivers, or seas; for their roots, deeply penetrating the earth in search of aliment, arrive at water that would never have felt the external air. This they of course absorb, and after it has performed its destined part, when it has augmented sap and been converted, according to the nature of the vegetable within which it circulates, into colour, fragrance, and solidity, much of it is doubtless secreted to the surface, and thence taken up into the ever-acting atmosphere.

Let us now suppose the clouds charged with rain: the moist is become water, and a gaseous substance is converted into one of great weight. What is the result? The most exquisite that could have been planned; for the heavy fluid descending upon the earth necessarily first wets the surface, and thence sinking to its destined level carries with it its vivifying influence through the various ranges of vegetable life.

If we next consider the higher regions of the globe, we shall observe equally wise provisions. Here are generally the sources of rivers, those inexhaustible magazines of water. Hills and mountains, moreover, have a tendency to attract the clouds, and thus to engross a large portion of the rain. Water is thus collected there whither streams could not ascend, and it is thence diffused from the higher to the lower regions, so that all necessarily participate in its influence.

[To be continued.]

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields

LONDON: CHARLES KNIGHT, 22, LUDGATE STREET.

Printed by William Clowes and Sons, Stamford Street